KISELEV, V.A., doktor tekhnicheskikh nauk, professor.

Efficient forms of three-hinged arches for civil and industrial buildings. Isal. po toor. soorush. no.4:338-355 '49.   (MIRA 10:8)
                            (Arches)

KISELEV V.

KISELEV, V.A.

24902 KISELEV, V.A. Obshcheye Uravneniye Verevochoy Krivoy Pri Deystvii
Vertikal'noy Nagruzki. Trudy Mosk. Avtomob-dor. In-ta Im. Molotova,
Vits. 11, 1949, S. 66-93 - Bibliogr: 5 Nazv.

SO: Letopis', No.33, 1949

KISELEV, V.A.

24901 KISELEV, V.A. O Forme Ravnovesiya Tyazheloy Nerazyazhimoy Normal'noy
Nagruzki P... al'noy Koordinate "u". Trudy Mosk. Avtomob-dor. In-ta
Im. Molotova, Vyp. 11, 1949, S. 160-66

SO: Letopis', No.33, 1949

KISELĔV, V. A.

BOOK
          Call No.:   AF603914
  Author: KISELĔV, V. A., Prof., Dotsent of Tech. Sci.
  Full Title:—DYNAMIC INFLUENCE LINES OF THE BENDING MOMENT AND OF THE
          LATERAL FORCE IN BEAMS
  Transliterated Title: K voprosu o dinamicheskikh linyakh vliyaniya
          izgibayushchego momenta i poperechnoy sily
          v balkakh

PUBLISHING DATA
  Originating Agency: Moscow Institute of Railroad Transport Engineers
    im. Stalin (MIIT), Trudy, Issue 76, Construction Mechanics
  Publishing House: State Publishing House of Railroad Transport
  Date: 1952   No. pp.: 15 (108-122)   No. of copies: 1,000
  Editorial Staff
    Editor-in-Chief: Litvin, G. A., Kand. of Tech. Sci.
    Editors: Profs., Doc. of Tech. Sci. Prokof'yev, I. P.,
      Pratusevich, Ya. A., and Sinel'nikov, V. V.
    Others: The preface was written by Gerasimov, A. S., Chief of MIIT,
      General Director of Traffic III Rank
PURPOSE: A paper intended for engineering-technical and
    scientific workers of railroad transport.
TEXT DATA
  Coverage: On the basis of the work of the academician Krylov, A. N.,
          1/2

K voprosu o dinamicheskikh linyakh vliyaniya izgibayu-
shchego momenta i poperechnoy sily v balkakh

the author gives a method for the determination of the influence
line of the bending moment and of the lateral force in a beam, due
to a mass-less load moving with a determined speed. The analyzis of
some basic dynamic coefficients are given. The author divides his
article as follows: 1. Introduction; 2. Solution of acad. A. N.
Krylov; 3. Dynamic coefficients; 4. Dynamic influence lines;
5. Auxiliary tables; 6. Movement of the band load; 7. Influence
lines due to load periodically changing in time. Formulae, tables
and diagrams.
No. of References: Total - 5, Russian 4, dated 1905-1939. Other 1,
    dated 1921.
Facilities: Names of several scientists working in the field of
    determination of stresses due to moving loads are mentioned in
    the text.

2/2

KISELEV, V. A.

RUBININ, M.V.; KISELEV, V.A., doktor tekhnicheskikh nauk, professor, retsenzent; POPOV, A.A., doktor tekhnicheskikh nauk, professor, retsenzent; LEVIT, M.A., dotsent, redaktor.

[Manual for practical studies on the strength of materials]
Rukovodstvo k prakticheskim zaniatiiam po soprotivleniiu materia-
lov. Izd. 2-e, ispr. i dop. Moskva, Gos. nauchno-tekhn. izd-vo ma-
shinostroitel'noi lit-ry. 1953. 307 p.   (MIRA 7:7)
      (Strength of materials)

KISELEV, V.A., professor, dokter tekhnicheskikh nauk.

[Efficient forms of arches and suspended structure systems] Ratsional'nye
formy arok i podvesnykh sistem. Moskva, Gos. izd-vo lit-ry po stroitel'stvu
i arkhitekture, 1953. 354 p.   (MIRA 6:10)
                                (Arches) (Statics)

KISELEV, V.A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Kiselev, V.A.	"Rational Forms of Arches and Suspension Systems"	Moscow Automobile Highway Institute imeni V.M. Molotov

SO: W-30604, 7 July 1954

KISELEV, V. A.

"The Rational Axis of Three-Ball Arches of Underwater Tunnels of Constant Cross Section," Dokl. AN SSSR, 90, No.1, pp 45-48, 1953

Rational axis is the name given to that axis for which the bending moments on all cross sections of an arch equal zero. Derives the differential eqs for the desired rational axis of an arch, which eqs are too complicated for integration; hence gives a modification for earier solution. Presented by Acad. A.I.Nekrasov 16 Mar 53

259T100

KISELEV   V. A .

RABINOVICH, Isaak Moiseyevich, doktor tekhnicheskikh nauk, professor;
BEZUKHOV, N.I., professor, doktor tekhnicheskikh nauk, retsenzent;
KISELEV, V.A., professor, doktor tekhnicheskikh nauk, retsenzent.
SNITKO, I.K., kandidat tekhnicheskikh nauk, nauchnyy redaktor;
TUMARKIN, D.M., redaktor; SMOL'YAKOVA, M.V., tekhnicheskiy redaktor.

[Course in the structural mechanics of bar systems] Kurs stroitel'-
noi mekhaniki sterzhnevykh sistem. Part 2. [Statically indetermina-
te systems] Staticheski neopredelimye sistemy. Izd. 2-e, perer.
Moskva, Gos.izd-vo lit-ry po stroitel'stvu i arkhitekture. 1954.
543 p.   (MLRA 7:11)

1. Chlen-korrespondent Akademii Nauk SSSR (for Rabinovich)
     (Structures, Theory of)

Kiseler, V A.

2071. Kiseler, V. A., A method of initial parameters for calcu-
lating circular plates with an axially symmetrical load (in
Russian), Issled. po. teorii sooruzhenii no. 6, 135–448, 1954;
Rev. no. 380, Ref. Zh. Mekh. 1956.

The calculation of circular plates with an axially symmetrical
load according to the method of initial parameters.

First of all a concentrated strip load, applied in a ring, is
examined. Further, a case is taken of an annular load determined
according to the parabolic law. Six examples are given of the
calculation of complete circular plates, and also with a central
hole, for various particular cases of loading, including concen-
trated moment loads. It is shown that this solution for a circular
plate is based on the case of a concentrated strip load. Using
this basic solution, it is possible to obtain solutions for other
forms of load as well. Generalised equations for a circular and
different and more simple method, were obtained by S. N.
Sokolov in 1935 [Tr. Mosk. ip-t. kbim. masbinostt. 1935, no. 1,
64–106].

Courtesy of Referativnyi Zhurnal   S. S. Kryukovskii, USSR
Translation, courtesy of Ministry of Supply, England

KISELEV, V.A., professor, doktor tekhnicheskikh nauk (Moscow)

Determining the configuration of the bottom chord of guying trusses.
Issledovaniia po teorii sooruzhenii. Sbornik statei no.6:389-394 '54.
(MLRA 7:11)
(Structures, Theory of) (Strains and stresses) (Elastic plates
and shells)

KISELEV, V.A., professor.

Method of initial parameters in calculating circular plates
having symmetrically loaded axes. Issledovaniia po teorii sooruzhenii.
Sbornik statei no.6:435-448 '54.   (MLRA 7:11)
        (Structures, Theory of) (Strains and stresses) (Elastic plates
                                                      and shells)

KISELEV, V. A.

ITSKOVICH, G.M.; KISELEV, V.A.; CHERNIAVSKIY, S.A.; BOKOV, K.N.; FAGEL', A.Z., BONCH-OSMOLOVSKIY, M.A.; GRINCHAR, G.N.; CHERNIAVSKIY, S.A., kandidat tekhnicheskikh nauk, nauchnyy redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor

[Collection of problems and methods of calculating machine parts]
Sbornik zadach i primerov rascheta detalei mashin. Moskva, Gos.
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 267 p. (MIRA 10:4)
(Machinery--Design)

KISELEV, V. A.

BOKOV, Kirill Nikolayevich; ITSKOVICH, Georgiy Mikhaylovich; KISELEV,
Vyacheslav Aleksandrovich; CHERNAVSKIY, Sergey Aleksandrovich;
TIKHONOV, A.Ya., tekhn.red.; SOKOLOVA, T.F., tekhn.red.

[A course in designing machine parts, a textbook] Kursovoe
proektirovanie detalei mashin; uchebno-spravochnoe posobie. Izd.
2-oe, perer. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
lit-ry, 1957. 503 p.   (MIRA 10:12)
                    (Machinery--Design)

Kiselev, V.A.

AUTHORS: Bokov, K.N., Itskovich, G.M., Kiselev, V.A.,
              Chernavskiy, S.A.

TITLE: Undergraduate Course in Design of Machine Elements.
              (Kursovoye proyektirovaniye detaley mashin) (Uchebno-
              -spravochnoye posobiye)

PUB. DATA: Gosudarstvennoye nauchno-tekhnicheskoye izdatel'stvo
              mashinostroitel'noy literatury, Moscow, 1957,
              2d ed. rev., 503 pp., 25,000 copies

ORIG. AGENCY: None given

EDITORS: Ed of Publishing House: Krylov, V.I., Engr.; Science
              Ed.: Itskovich, G.M., Engr.; Tech. Editors:
              Tikhanov, A.Ya., and Sokolova, T.F.; Corrector:
              Matisen, V.G.

PURPOSE:.   This book is approved by the Administration of
              Special Secondary Educational Institutions, Ministry
              of Higher Education of the USSR, as a text for technical
Card 1/10   schools.

Undergraduate Course in Design of Machine Elements. (Cont.)

COVERAGE:.   The book is stated to contain the basic data and
              instructions for designing the drive mechanisms
              which are the standard subjects of study in courses
              in machine design at USSR technical schools. Typical
              design problems and calculations are given. The
              authors stress the importance of conducting student
              examinations in basically the same way as that in
              which students defending theses are examined. Chapter
              XIV was written with the assistance of Bonch-
              Osmolovskiy, M.A., Candidate of Technical Sciences,
              and Grinchar, G.N., Candidate of Technical Sciences.
              There are 34 references, all USSR.

Card 2/10

AUTHOR: Kiselev, V. A.

TITLE: On the Selection of the Cross Sections of a Flexible Thread Loaded
           Uniformly Along Its Length With Due Consideration of the Weight of
           the Thread Itself (O podbore secheniy gibkoy niti pri ravnomernoy
           nagruzke po yeye dline s uchetom sobstvennogo vesa niti)

PERIODICAL: V sb.: Issledovaniya po teorii sooruzheniy. Nr 7, Moscow,
             Gosstroyizdat, 1957, pp 597-603

ABSTRACT: Expressions are adduced for the tension, length, elongation, and
             necessary cross section of a thread; the expressions are based on an
             exact solution for the thread as a catenary line. An example is
             provided.
                                                              I. K. Snitko

Card 1/1

SOV/124-58-7-8097

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 113 (USSR)

AUTHOR: Kiselev, V. A.

TITLE: The Influence Coefficients in the Calculation of Continuous
            Beams Through Fixed-point Ratios (Koeffitsiyenty vliyaniya
            pri raschete nerazreznykh balok cherez fokusnyye otnosheniya)

PERIODICAL: Tr. Mosk. avtomob.-dor. in-ta, 1957, Nr 20, pp 113-116

ABSTRACT: Bibliographic entry

            1. Beams--Mathematical analysis

Card 1/1

SOV/124-58-7-8095

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 113 (USSR)

AUTHOR: Kiselev, V.A.

TITLE: On the Differential Relationships Existing Between the Influence
            Lines of the Bending Moment M, the Transverse Force Q, and
            the Longitudinal Force N (O differentsial'nykh zavisimostyakh
            mezhdu liniyami vliyaniya izgibayushchego momenta M,
            poperechnoy sily Q, i prodol'noy sily N)

PERIODICAL: Tr. Mosk. avtomob.-dor. in-ta, 1957, Nr 20, pp 117-121

ABSTRACT: Bibliographic entry

            1. Materials--Moments   2. Materials--Stresses

Card 1/1

SOV/124-58-8-9209

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 126 (USSR)

AUTHOR: Kiselev, V.A.

TITLE: Concerning Special Solutions for Some Types of Differential
Equations Encountered in Structural Mechanics (O chastnykh
resheniyakh nekotorykh vidov differentsial'nykh uravneniy v
stroitel'noy mekhanike)

PERIODICAL: Tr. Mosk. avtomob.-dor. in-ta, 1957, Nr 20, pp 123-126

ABSTRACT: Bibliographic entry

Card 1/1

ITSKOVICH, G.M.; KISELEV, V.A.; CHERNAVSKIY, S.A., kand.tekhn.nauk;
BOKOV, K.N.; FAGEL', A.Z.; BONCH-OSMOLOVSKIY, M.A.; GRINCHAR,
G.N.; EL'KIND, V.D., tekhn.red.

[Collected problems and exercises of design for the course on
machine parts] Sbornik zadach i primerov rascheta po kursu
detalei mashin. Izd.2-e, perer. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1959. 330 p.   (MIRA 13:10)
    (Mechanical engineering--Problems, exercises, etc.)

DYKHOVICHNYY, Abram Ionovich; RABINOVICH, I.M., prof., retsenzent; KISELEV, V.A., prof., retsenzent; SNITKO, I.K., prof., otv.red.; PETRAKOVA, Ye.P., red.izd-va; KOROVENKOVA, Z.A., tekhn.red.

[Structural mechanics; abridged course] Stroitel'naia mekhanika; sokrashchennyy kurs. Izd.3.,perer. Moskva, Ugletekhizdat, 1959. 342 p.   (MIRA 12:4)

1. Rukovoditel' kafedry stroitel'noy mekhaniki Voyenno-inzhenernoy akademii imeni V.V.Kuybysheva (for Rabinovich).
                    (Structures, Theory of)

KISELEV, V.A.

PHASE I   BOOK EXPLOITATION   SOV/3453

Chernavskiy, Sergey Aleksandrovich, Georgiy Mikhaylovich Itsko-
    vich, Vyacheslav Aleksandrovich Kiselev, Kirill Nikolayevich
    Bokov, Mikhail Aleksandrovich Bonch-Osmolovskiy, and Boris
    Pavlovich Kozintsov

Proyektirovaniye mekhanicheskikh peredach; uchebno-spravochnoye
    posobiye po kursovomu proyektirovaniyu detaley mashin (De-
    signing of Mechanical Drives;   Text and Handbook On Ma-
    chine Parts Designing) Moscow, Mashgiz, 1959. 740 p. 80,000
    copies printed.

Scientific Ed.:   S.A. Chernavskiy;   Ed. of Publishing House:
    N.Yu. Blagosklonova, Engineer;   Tech. Ed.:   A.Ya. Tikhanov;
    Managing Ed. for Information Literature: I.M. Monastyrskiy,
    Engineer.

PURPOSE: This manual is intended for students in higher engineering
    schools.

COVERAGE: This book describes the basic principles of the
    kinematic design of drives with a consideration of economy
Card 1/8

Designing of Mechanical (Cont.)   SOV/3453

factors.   Fundamentals of designing speed reducers, variable
speed drives, and various types of mechanical transmission
are explained. Methods of designing for strength are also dis-
cussed. Examples of design and construction of drives are presented.
No personalities are mentioned. There are 67 Soviet references.

TABLE OF CONTENTS:

Card 2/8

BOKOV, Kirill Nikolayevich; ITSKOVICH, Georgiy Mikhaylovich, inzh.; KISELEV,
Vyacheslav Aleksandrovich; CHERNAVSKIY, Sergey Aleksandrovich;
GIL'DENBERG, M.I., red.izd-va; MODEL', B.I., tekhn.red.

[Course in the design of machine parts; text and reference book]
Kursovoe proektirovanie detalei mashin; uchebno-spravochnoe posobie.
Izd.3. Leningrad, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry,
1960. 507 p.   (MIRA 13:11)
                    (Machinery--Design)

KISELEV, Vasiliy Aleksandrovich, prof., doktor tekhn.nauk; DARKOV, A.V.,
prof., doktor tekhn.nauk, retsenzent; PROKOF'YEV, K.N., nauchnyy
red.; BORODINA, I.S., red.izd-va; OSHUKO, L.M., tekhn.red.

[Structural mechanics] Stroitel'naia mekhanika. Moskva, Gos.
izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1960.
559 p.   (MIRA 13:12)
               (Structures, Theory of)

KISELEV, V.A., prof., doktor tekhn.nauk (Moskva)

Designing continuous beams for a live load according to the limiting state, taking into account the plactic properties of the material.
Issl. po teor. sooruzh. no.10:134-155 '61.   (MIRA 14:8)
(Beams and girders, Continuous)

SAVIN, G.N., otv.red.; ADADUROV, R.A., red.; ALUMYAE , N.A., red.;
AMBARTSUMYAN, S.A., red.; AMIRO, I.Ya., red.; BOLOTIN, V.V., red.;
VOL'MIR, A.S., red.; GOL'DENVEYZER, A.L., red.; GRIGOLYUK, E.I.,
red.; KAN, S.N., red.; KARMISHIN, A.V., red.; KIL'CHEVSKIY, N.A.,
red.; KISELEV, V.A., red.; KOVALENKO, A.D., red.; MUSHTARI, Kh.M.,
red.; NOVOZHILOV, V.V., red.; UMANSKIY,A.A., red.; FILIPPOV, A.P.,
red.; LISOVETS, A.M., tekhn. red.

[Proceedings of the Second All-Union Conference on the Theory of
Plates and Shells]Trudy Vsesoiuznoi konferentsii po teorii plastin i
obolochek.2d,Lvov, 1961.Kiev, Izd-vo Akad.nauk USSR, 1962. 581 p.
(MIRA 15:12)

1. Vsesoyuznaya konferentsiya po teorii plastin i obolochek. 2,
Lvov, 1961.
(Elastic plates and shells)

S/879/62/000/000/044/088
D234/D308

AUTHOR: Kiselev, V. A. (Moscow)

TITLE: Dynamical surfaces of influence of displacement and internal forces of orthotropic plates placed on an elastic base with two characteristics from a moving load having a uniform velocity

SOURCE: Teoriya plastin i obolochek; trudy II Vsesoyuznoy konferentsii, L'vov, 15-21 sentyabrya 1961 g. Kiev, Izd-vo AN USSR, 1962, 274-279

TEXT: The author solves the problem of bending of an orthotropic plate subject to any load varying with time

$$w(x,y,t) = \sum_{n=1}^{\infty} \left[w_n(x,y) e^{-\alpha t} (a_n \sin \bar{\omega}_n t + b_n \cos \bar{\omega}_n t) + \right.$$

Card 1/2

Dynamical surfaces of ...

S/879/62/000/000/044/088
D234/D308

$$+ \frac{w_n(x,y)}{\bar{\omega}_n} \int_0^t e^{-\alpha(t-u)} q_n(u) \sin \bar{\omega}_n(t - u) du \Bigg] \qquad (16)$$

and derives general expressions for the surfaces of influence of displacements, also for a plate with additionally hinged edges. An expression for the critical velocity is also derived. The author includes a summary of his investigation of principal vibrations of a plate with two opposite sides hinged; these are not published because of lack of space. There is 1 figure.

Card 2/2

S/124/63/000/003/051/065
D234/D308

AUTHOR: Kisselev, V. A.

TITLE: Bending of a beam beyond the yield limit, taking into
             account the variation of the cross-sectional dimen-
             sions

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1963, 31, ab-
             stract 3V211 (In collection: Issled. po teorii sooruzh.
             no. 11, M., Gosstroyizdat, 1962, 227-252)

TEXT: The variations of cross-sectional dimensions in both direc-
tions are taken into account. Hypotheses of plane sections and
constant volume are adopted. The variation of the cross-section in
the elastic stage is ignored. The author uses the notions of true
(logarithmic) deformation e and true stress s (calculated from the
area F of the deformed section) in the axial tension (compression).
He introduces the quantity $\psi = 1 - F/F_0$ (F_0 is the initial area of
the cross-section) connected with the conventional deformation ε

Card 1/2

Bending of a beam ...

S/124/63/000/003/051/065
D234/D308

and with e by the relation

$$\Psi = \frac{\varepsilon}{1 + \varepsilon} = \frac{\exp e - 1}{\exp e}$$

Some methods of approximating the relations s(e), s(Ψ), s(ε) are proposed. The s(e) graph of tension (compression) is used to investigate the case of single-axis compression. A dependence between true deformations and end fibers is established and the bending moment corresponding to these deformations is calculated. The particular case of a rectangular cross-section is considered. Similar investigations are carried out using the other two relations. /¯Abstracter's note: Complete translation._/

Card 2/2

KISELEV, V.A.; AFANAS'YEV, A.M., nauchn. red.; TITOVA, V.A., red.;
    BARANOV, Yu.V., tekhn. red.

[Theory of external and internal forces in a bar] Teoriia
vneshnikh i vnutrennikh sil brusa. IAroslav', Rosvuzizdat,
1963. 66 p.   (MIRA 16:12)
                    (Beams and girders)

BAGREYEV, Vladimir Vladimirovich; VINOKUROV, Anatoliy Ivanovich;
KISELEV, Vyacheslav Aleksandrovich; PANICH, Boris
Bentsionovich; ITSKOVICH, Georgiy Mikhaylovich;
KONDRASHOV, D.A., inzh., retsenzent; RUBASHKIN, A.G.,
inzh., retsenzent; ARKUSHA, A.I., nauchn. red.; KOZINTSOV,
B.S., nauchn. red.; VASIL'YEVA, N.N., red.; YEROMITSKAYA,
Ye.Ye., red.; SHAURAK, Ye.N., red.; KRYAKOVA, D.M., tekhn.
red.

[Collection of problems in technical mechanics] Sbornik za-
dach po tekhnicheskoi mekhanike [By] V.V.Bagreev i dr. Le-
ningrad, Sudpromgiz, 1963. 551 p.   (MIRA 16:8)
    (Mechanical engineering--Problems, exercises, etc.)

KISELEV, V.A., doktor tekhn. nauk, prof. (Moskva)

Dynamic surfaces of effect of the displacements and internal forces of orthotropic plates on an elastic foundation with two coefficients of the bed. Issl. po teor. sooruzh. no.12:43-64 '63.

(MIRA 16:6)

(Elastic plates and shells)

CHERNAVSKIY, S.A., kand. tekhn.nauk; ITSKOVICH, G.M.; KISELEV, V.A.:
     BOKOV, K.N.; BONCH-OSMOLOVSKIY, M.A.; KOZINTSOV, V.P.;
     FEDOTOV, G.I., prof., retsenzent; GIL'DBERG, M.I., red.izd-
     va; SOKOLOVA, T.F., tekhn. red.

     [Design of mechanical transmissions] Proektirovanie mekhani-
     cheskikh peredach; uchebno-spravochnoe posobie po kursovomu
     proektirovaniiu mekhanicheskikh peredach. Izd.2., perer.
     [By] S.A.Chernavskii i dr. Moskva, Mashgiz, 1963. 799 p.
                                              (MIRA 16:12)
                     (Power transmissions)

AFANAS'YEV, A.M.; YERMOLENKO, V.A.; KISELEV, V.A., zasl. deyatel'
    nauki i tekhniki RSFSR, doktor tekhn. nauk, prof.;
MEDNIKOV, I.A.; OVSYANNIKOVA, M.V.; SLOBODCHIKOV, A.Ya.;
TYAZHELOV, N.N.; FEDOROV, Yu.P.; TSVEY, I.Yu.; DARKOV,
A.V., doktor tekhn.nauk, prof., retsenzent; FEDOROV, Yu.P.,
kand. tekhn. nauk, nauchn. red.

[Structural mechanics in examples and problems] Stroitel'-
naia mekhanika v primerakh i zadachakh. Moskva, Stroi-
izdat, 1964. 341 p.   (MIRA 18:1)

KISELEV, Vasiliy Aleksandrovich, doktor tekhn. nauk, prof.;
    REKACH, V.G., doktor tekhn.nauk, retsenzent;
    MEDNIKOV, I.A., kand. tekhn. nauk, dots., nauchn.red.

    [Structural mechanics; a special course (the dynamics
    and rigidity of structures)] Stroitel'naia mekhanika;
    spetsial'nyi kurs (dinamika i ustoichivost' sooruzhenii).
    Moskva, Stroiizdat, 1964. 331 p.   (MIRA 18:2)

KISELEV,V.A.   (Moscow)

"A comment on Shanley's theory of buckling of bars"

report presented at the 2nd All-Union Congress on Theoretical
and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

KISELEV, V.B.

Dynamics of the peripheral blood circulation in patients with
lumbosacral radiculitis under the influence of bath and mud
treatments. Vrach.delo no.10:128-129 O '60.   (MIRA 13:11)

1. Kurort "Staraya Russa" (rukovoditeli raboty - deystvitel'nyy
chlen AMN, prof. S.N.Davidenkov i prof. Kh.M.Freydin)
          (BLOOD--CIRCULATION)
          (NERVES, SPINAL--DISEASES)

KISELEV, V.B.

Results of treating chronic lumbosacral radiculitis at Staraya
Russa helth resort. Och.klin.nevr. no.1:239-250 '62.   (MIRA 15:9)
                    (NERVES, SPINAL—DISEASES)
      (STARAYA RUSSA—HEALTH RESORTS, WATERING- PLACES, ETC.)

KISELEV, V. F.

"Investigation of Deformations in the Process of Cutting Cast Iron." Thesis for degree of Cand. Technical Sci. Sub 22 Feb 50, Moscow Machine Tool (and Tool) Inst imeni I. V. Stalin

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

DEMICHEV, A.D.; KISELEV, V.F., starshiy dorozhnyy master (stantsiya Ira-Iol'
Pechorskoy dorogi)KOZLOVSKIY,A.D.;KOMANDIN,A.A.; starshiy dorozhnyy master
(Stantsiya Polotsk Belorusskoy dorogi);KURS, V.G., brigadir puti(stant-
siya Cheremkhovo Vostochno-Sibirskoy dorogi); PAVLOV, V.N., brigadir
puti (stantsiya Cheremkhovo Vostochno-Sibirskoy dorogi); SHAKHBALAYEV,
A.M., dorozhnyy master (stantsiya Zenzeli Ordzhonikidzevskoy dorogi);
TARASENKO, V.Ye., dorozhnyy master (stantsiya Irkutsk II)

Letters to the editor. Put' i put.khoz. no.11:43-45 N '58.
                                        (MIRA 11:12)
1. Nachal'nik normativnoy stantsii tresta "Rekput'." (for Demichev).
2. Zamestitel' nachal'nika distantsii, stantsiya Kizel Sverdlovskoy
dorogi (for Kozlovskiy).
                    (Railroad engineering)

SOV/124-58-7-8152 D

AUTHOR: Kiselev, V.F.

TITLE: Methods of Strength Analysis of Spar-type and Monocoque Wings
(Metody raschetov na prochnost' lonzheronnykh i kessonnykh
kryl'yev)

ABSTRACT: Bibliographic entry on the author's dissertation for the de-
gree of Doctor of Technical Sciences, presented to the Mosk.
aviats. in-t (Moscow Aviation Institute), Moscow, 1957

ASSOCIATION: Mosk. aviats. in-t (Moscow Aviation Institute), Moscow

1. Wings--Stability   2. Wings--Analysis

Card 1/1

AUTHOR: Kiselev, V. F. (Vladimir Filippovich)

TITLE: Method for the Stress Analysis of a Delta Wing With Elastic Constraint
(Metod rascheta treugol'nogo kryla na prochnost' s uchetom uprugoy
zadelki)

ABSTRACT: The stress analysis of a delta wing is reduced to the analysis of a
conical shell of small elongation (aspect ratio). The solution utilizes
the fundamental equations for the stresses and strains in a conical
shell (ref. Balabukh, L. I. , Tr. Tsentr. aerogidrodinam. in-ta, 1947,
Nr 640). The influence of the constraint upon the stress distribution
in the wing is accounted for with the aid of a self-balancing system of
internal stresses represented in the form of a series, the terms of
which consist of the products of two functions which vary along the
section contour and along the generatrix of the cone. The function of
the variation of the self-balancing stress system along the contour
must be selected suitably, while the function of the variation of these
stresses along the span must be determined from the system of Euler

Card 1/2

SOV/124-58-11-13270

Method for the Stress Analysis of a Delta Wing With Elastic Constraint

equations obtained upon variation of the expression of the potential energy of the wing. An analogous solution is obtained for a multi-web delta wing in which the webs are directed along the generatrices. In that problem the author introduces additionally the unknown stress fluxes in the spar webs which are determined from the system of canonical equations set up by the force method. Also obtained are formulas for the analysis of a swept-back box wing with the ribs aligned with the airflow; this is done by analogy with the calculation formulas obtained for the low aspect-ratio wing. The calculation procedure is exemplified in the case of the flexure of a two-web delta wing with rectangular section, loaded by a force applied at the tip.

I. L. Kats

Card 2/2

KISELEV, V. F., Doc Tech Sci (diss) -- "Methods of computing the strength of

longeron and caisson wings". Moscow, 1959. 12 pp (Min Higher Educ USSR, Moscow

Order of Lenin Aviation Inst im Sergo Ordzhonikidze), 150 copies (KL, No 20, 1959,

111)

OBRAZTSOV, Ivan Filippovich; KISELEV, V.F., dotsent, kand.tekhn.nauk,
retsenzent; ZASLAVSKIY, B.V., dotsent, kand.tekhn.nauk, red.;
BOGOMOLOVA, M.F., izdat.red.; PUKHLIKOVA, N.A., tekhn.red.

[Stability analysis of wing-type shell structures] Metody
rascheta na prochnost' kessonnykh konstruktsii tipa kryla.
Moskva, Gos.izd-vo obor.promyshl., 1960. 311 p.   (MIRA 13:5)
                    (Airplanes--Wings)

AM4016095   BOOK EXPLOITATION   S/2543

Kiselev, Vladimir Filippovich

Method of stress analysis of delta wing with elastic wing-root support (Metod
    rascheta treugol'nogo kryla na prochnost' s uchetom uprugoy zadelki) Moscow,
    Oborongiz, 57. 0041 p. illus., biblio. Errata slip inserted. No. of copies
    not given.

Series Note: Moscow. Tsentral'nyy aero-gidrodinamicheskiy institut. Trudy,
    no. 703

TOPIC TAGS: airplane wing, delta wing, stress analysis, elastic wing root support,
backswept wing, multispar delta wing, shell wing, backswept ribbed wing, Casti-
gliano method

PURPOSE AND COVERAGE: The book contains a method of determining stresses in a
delta wing with elastic wing skin in the vicinity of the root support. The Casti-
gliano variational method is used. The book is intended for engineering-technical
workers in aviation design offices, and for instructors or students of higher
aviation schools.

Card   1/2

AM4016095

TABLE OF CONTENTS [abridged]:

SUB CODE: AP, MA   SUBMITTED: 01Aug57   NR REF SOV: 003

OTHER: 000   DATE ACQ: 11Dec63

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L 16943-66   EWT(m)/T/EWP(t)   IJP(c)   JD
ACC NR: AP6004095   (N)   SOURCE CODE: UR/0020/66/166/002/0395/0398

AUTHOR: Prudnikov, R.V.; Kiselev, V.F.; Yegorov, M.M.

ORG: Moscow State University im. M.V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Study of the adsorptive properties of the germanium dioxide surface

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 395-398

TOPIC TAGS: adsorption, germanium compound

ABSTRACT: Measurements of adsorption, heat of adsorption, structural water content, and specific surface were carried out for a germanium dioxide surface with water as the adsorbate; water was chosen because its adsorption is the most sensitive to the state of the oxide surface. The adsorptive activity of GeO_2 heated to various temperatures is correlated with the structural transformations taking place in this oxide; as the temperature of the heat treatment rises from 20 to 300C, the specific values of the primary adsorption increase, the maximum adsorption being displayed by samples heated to 300C: a further rise in temperature causes a sharp decrease in adsorptive activity. This behavior is attributed to the healing of surface defects and conversion to the purely tetragonal form
Card 1/2   UDC: 541.183.2

L 16943-66

ACC NR: AP6004095

of GeO_2. A mechanism of donor-acceptor interaction is proposed to account for the adsorption. The paper was presented by Academician M.M. Dubinin 4 June 1965. Authors express their deep appreciation to K.G. Krasil'nikov for a helpful discussion of the results. Orig. art. has: 3 figures.

SUB CODE: 07 / SUBM DATE: 02Jun65 / ORIG REF: 010 / OTH REF: 004

Card 2/2 vmb

NAUMOV, K.A.; KISELEV, V.F., doktor tekhn. nauk prof., red.

[Strength of materials; manual for the course on "Techni-
cal mechanics, Part I" for students specializing in
"Radio engineering" and "Design and construction of radio
equipment"] Soprotivlenie materialov; uchebnoe posobie po
kursu "Tekhnicheskaia mekhanika" chast' I dlia studentov
spetsial'nostei "Radiotekhnika" i "Konstruirovanie i pro-
izvodstvo radioelektronnoi apparatury". Izd.2., perer.
Moskva, Vses. zaochnyi energ. in-t, 1965.   389 p.
                                        (MIRA 19:1)

MASHCHENKO, A.I.; SHARAPOV, V.M.; KAZANSKIY, V.B.; KISELEV, V.I.

Appearance of electron paramagnetic resonance signals during the low-temperature adsorption of various gases on reduced rutile (TiO_2). Teoret. i eksper. khim. 1 no.3:381-386 My-Je '65.
(MIRA 18:9)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

KISELEV, V. G.

"Selection of Optimum Face Length Under Conditions Prevailing in the Vorkuta Coal Deposit." Cand Tech Sci, Chair for the Working of Stratified Deposits, Leningrad Order of Lenin and Order of Labor Red Banner Mining Inst, Min of Higher Education USSR, Leningrad, 1954. (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

KISELEV, V.G.; KUPRIN, A.I.

Possible flow sheets for the mining of inclined and steeply pitching
seams using gravity haulage. Trudy VNIIGidrouglia no.1:64-68 '62.
(MIRA 16:12)

1. Sibirskiy metallurgicheskiy institut.

KISELEV, V.G., kand.tekhn.nauk

An important potential for increasing the efficiency of electric drills. Ugol' 40 no.3:45-47 Mr '65.
(MIRA 18:4)

1. Sibirskiy metallurgicheskiy institut.

CA

Adiabatic calorimeter with constant heat exchange for measuring the heats of adsorption of gases and liquids. A. V. Kiselev, V. F. Kiselev, N. N. Mikos, G. G. Muttik, A. D. Runov, and K. D. Shcherbakova. *Zhur. Fiz. Khim.* 23, 577-94 (1949).—A calorimeter surrounded by a bath, whose temp. is kept lower than that of the calorimeter so as to remove the heat evolved by the stirrer and the elec. resistance thermometer, is described in detail. It can measure the heat of adsorption of gases to 0.00005-0.0002 cal., and the heat of wetting to 0.0005-0.002 cal. per g. adsorbent. 31 references.   J. J. Bikerman

KISELEV, V. F.   and.   Runov, A.D.

"Heat of Adsorption from Solutions at Various Temperatures,"
Zhur. Fiz. Khim., 23, No. 5, 1949   pp. 1005-17

An automatic calorimeter with
the measurement of the heat

KISELEV, V. F.

Cand. Phys-Math Sci

Defended his Candidates dissertation in the Physics Faculty of Moscow State
University on 2 June 1952.

Dissertation: "Heats of Adsorption by Solid Adsorbers of Pure Liquids and
Solutions."

SO: Vestnik Moskovskogo Universiteta, Seriya Fiziko-Matematicheskikh i
Yestestvennykh Nauk, No. 1, Moscow, Feb 1953, pp 151-157: transl. in
W-29782, 12 April 54, ▮▮▮▮▮▮▮▮▮▮▮.

KISELEV, A.V.; KISELEV, V.F.; MIKOS-AVGUL', N.N.; MUTTIK G.G.; RUNOV, A.D.; SHCHERBAKOVA,
K.D.;

Calorimeters and Calorimety

Automatic calorimeter with constant heat exchange for measuring heats of absorption
of gases and liquids. Trudy Inst. fiz. khimii AN SSSR no. 1, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED

KISELEV, V. F.

Absolute heats of wetting of strontium, lead, and barium sulfates, with water and with alcohols. B. V. Il'in and V. F. Kiselev (Moscow State Univ.). Doklady Akad. Nauk S.S.S.R. 82, 85-7(1952).--The heats of wetting Q were detd. by calorimetry on $SrSO_4$ and $PbSO_4$ preliminarily heated to a temp. low enough ($260°$) to guarantee against sintering. Sp. surface areas, as detd. by the B.E.T. method of absorption of N_2 at $-195.7°$, were: $SrSO_4$ 4.5, $PbSO_4$ 2.3 sq. m./g., comparing with 5.3 and 2.4 by electron-microscope photography. The mean values of Q, with H_2O, MeOH, and $C_8H_{17}OH$, are, for $SrSO_4$, 0.34 ±0.01, 0.22± 0.005, and 0.23± 0.02, and for $PbSO_4$, 0.28± 0.01, 0.17± 0.01, and 0.17± 0.02 cal./g. The abs. values of Q, per unit surface area, are, for $SrSO_4$, 315, 200, and 215, and for $PbSO_4$, 490, 320, and 310 ergs/sq. cm. The values of Q for $SrSO_4$, $PbSO_4$, and $BaSO_4$(cf. ibid. 59, 925-7(1948); Zhur. Eksptl. Teoret. Fiz. 6, 1155(1936); C.A. 45, 3232i) are of the same order as the theoretically calcd. elec-trostatic component of the absorption energy. However, the decrease of Q from $SrSO_4$ to $PbSO_4$ to $BaSO_4$ predicted by the theory is not observed. Likewise, there is no difference in the abs. adsorption isotherms of the 3 sulfates for N_2 at $-195.7°$, in miscromoles/ sq. m. as a function of p/p.; the points for all 3 sulfates lie on the same isotherm. This absence of any systematic variation could be due to differences of drying conditions, or in the structure of the adsorbing surfaces; such differences appear in the electron-microscope photographs. On the other hand, there is, for each given adsorbent, a systematic decrease of Q from H_2O to the alcs. The ratio of Q for H_2O and for alcs. is approx. the same for $SrSO_4$ and $PbSO_4$, 1.5-1.6. From the electrostatic theory, on the basis of the 2:1 ratio of the areas of alcs. and of H_2O, a ratio of Q of 1.8-1.9 should be expected. This ratio is reduced to 1.5 if the radium of the SO_4^{--}ion is taken into account.   N. Thon

Inst. Physics, Moscow State U.

KISELEV, V. F.

"Studying the Adsorption and Heat of Adsorption of Phenol in Aqueous Solution on Nonporous Carbon Black," V. F. Kiselev, K. G. Krasil'nikov, Moscow State U imeni M. V. Lomonosov and Inst of Phys Chem, Acad of Sci USSR

"Dok Ak Nauk SSSR" Vol 86, No 1, pp 111-113

The heat of adsorption and adsorption isotherms of phenol-water solns close to the sepn concn were studied. The curves for the adsorption and the heat of adsorption are S-shaped. Increase in adsorption

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and in heat of adsorption in the region of concns close to the point of sepn (layer formation) appar- ently are related to polymol adsorption. At that point on the adsorption isotherm, where the curve has a stepwise character, the heat of adsorption curve has a series of minima. Presented by Acad M. M. Dub- inin 5 Jul 52.

234T20

1. KISELEV, V. F.

2. USSR (600)

4. Carbon Black

7. Absolute values of the heat of wetting of non-porous carbon black, Dokl. AN SSSR 89, no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, ___May___ 1953, Uncl.

DREVING, V.P.; GERASIMOV, Ya.I., professor, redaktor; KISELEV, V.F.,
redaktor; ORLOVA, N.S., tekhnicheskiy redaktor.

[Phase rule] Pravilo faz. Pod red. IA.I.Gerasimova. [Moskva]
Izd-vo Moskovskogo universiteta, 1954. 172 p.   (MLRA 7:8)
(Phase rule and equilibrium)

KISELEV, V. F.

Heats of wetting of crystals by polar liquids and the di...

KISELEV, V.F.

USSR/ Physical Chemistry - Surface phenomena. Adsorption. Chromatography.   B-13
Ion exchange

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11393

Author   : Aleksandrova G.I., Kiselev V.F., Krasil'nikov K.G., Murina V.V.,
            Sysoyev Ye.A.
Inst   : Academy of Sciences USSR; Moscow State Univ.
Title   : Heat of Wetting of Silicagel of Different Degrees of Hydration by
            Some Organic Liquids

Orig Pub : Dokl. AN SSSR, 1956, 108, No 2, 283-286

Abstract : Determined were the heat values of wetting of surface unit of dehydrated,
            at 300-900°, of specimens of silicagel (SG) of different porosity by ab-
            solute methanol (Q_1), n-propanol (Q_2) and non-polar n-heptane (Q_3). Q_1
            does not depend on the nature of porosity of SG; Q_2 and Q_3 are higher in
            the case of coarsely porous SG, than for finely porous, which is attribu-
            ted to the effect of pores which increases on transition to larger molecu-
            les of C_3H_7OH and C_7H_{14}. Q_1 and Q_2 increase linearly with degree of hy-
            dration (θ_{H_2O}) of SG surface, which confirms (see reference) the assum-

1/2

USSR/ Physical Chemistry - Surface phenomena. Adsorption, Chromatography.
Ion exchange

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11393   B-13

            ption of heterogeneity of SG surface. Q_3 is almost not dependent on
            H_2O. The conclusion is arrived at that most of the earlier data on
            heat of wetting of SG are not mutually comparable since no account
            was taken of the correlation between Q and θ_{H_2O} and the nature of
            porosity of SG (see RZhKhim, 1956, 77773)

2/2

IL'IN, B.V.; KISELEV, V.F.; KRASIL'NIKOV, K.G.

Effect of the surface

Low-temperature adsorption of nitrogen on thermally de-
hydrated silica and alumina gels. K. G. Krasil'nikov, V.
F. Kiselev, N. V. Kapitonova. V.
Lomonosov State Univ.

SiO₂ obtained ...
... samples of SiO₂ and Al₂O₃
gels, calcined in a high vacuum for 24 hrs ...
The structural water was determined by heating at 1250° to const
wt.; the sp. surface by the B.E.T method. The adsorp-
tion isotherms at the liquid-N temp. referred to unit surface
coincided for all the samples. The good agreement of the
results showed that low-temp. N adsorption can be used as a
standard method for the detn. of sp. surfaces.

Distr: 4E4j/4E2c/4E4c   W. M. Sternberg

AUTHORS:

Yegorov, M. M., Yegorova, T. S., Kiselev, V. F.,
Krasil'nikov, K. G.

20-114-3-35/60

TITLE:

The Adsorption of Water Vapors on Silica Gels Hydrated to
Varied Degrees (Adsorbtsiya parov vody na silikagelyakh razlichnoy
stepeni gidratatsii)

PERIODICAL: Doklady Akademii Nauk SSSR,1957,Vol.114,Nr 3,pp.579-582(USSR)

ABSTRACT:

As is known, the adsorption of water vapors on silica gels is
characteristic by some specific properties. Some previously
published scientific papers have investigated in detail the
irreversible adsorption of water vapors which is connected
with an additional hydration of the silica-gel surface in the
process of adsorption. Other investigations reached the con-
clusion that the isotherm of the adsorption of water vapors,
depending on the degree of the dehydration of the silica-gel
surface and of porous glasses, is transformed from a convex
into a concave line, the latter corresponding to a hydro-
phobic surface. There exist different divergences in computing
the specific surfaces of silica gels from the isothermal lines.
None of the authors of the above-mentioned scientific papers

Card 1/4

The Adsorption of Water Vapors on Silica Gels Hydrated to Varied Degrees

20-114-3-35/60

conducted the chemical analysis of the surfaces of the silica gels and of porous glasses. This task was now performed by the authors of the paper under review. Figure Nr 1 of the paper under review represents the isotherms of the water vapors on the initial silica gels and also the curves of distribution - as computed from the desorption branches - of the pore volume with respect to their effective diameter taking into account the thickness of the adsorbed film. Figure Nr 2 contains the initial segments of the primary vapor adsorption on all samples of silica gels, computed for 1 m^2 of the surface. It can be seen from figure Nr 2 that the isotherms of the three initial samples, worked at 300 degrees centigrade, are placed in such a way that p/p_g being the same, the adsorption decreases with a decrease in the degree of hydration of the surface, and this corresponding to the observed reduction in heat of the water moistening of the same samples. The state attained at the water adsorption at the thermally dehydrated surfaces are not equilibrated, as far as in this case the process of hydration of the surface can take place. However, in the mono- molecular range at small p/p_g this process is very slow. There- fore it is possible to consider the isotherms of the figure Nr 2A of the silica gel samples K-2, annealed at high tempera-

Card 2/4

The Adsorption of Water Vapors on Silica Gels Hydrated to Varied Degrees   20-114-3-35/60

tures, as equivalent from the point of view of adsorption.
For this purpose, however, one has to neglect the slight
modification of the surface hydration during the process of
establishing the adsorption equilibrium. If these isotherms
are compared with the previous ones, it can be seen that, de-
pending on the surface hydration, they change their form and
become concave. It is furthermore observed that in this con-
text the capacity of adsorption of the silica gel decreases.
Quite a number of assumptions - as found in relevant scienti-
fic literature - on the mechanism of adsorption of water va-
pors on silica gel and on the hydration of its surface, are
in contradiction to each other; these assumptions are based
on adsorption data and also on the investigation of the infra-
red spectra of the surface layer. I_n order to clarify these
questions, additional research is necessary, namely study of
adsorption linked with spectroscopic investigations. There
are 2 figures, 1 table, and 20 references, 14 of which are
Slavic.

Card 3/4

KISELEV, V. F.

AUTHORS: Krasil'nikov, K. G., Kiselev, V. F., Sysoyev, Ye. A. 20-6-27/42

TITLE: Nature of the Surface of a Dehydrated Silicagel
                   (K voprosu o prirode poverkhnosti degidratirovannogo
             silikagelya)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 6, pp. 990-993 (USSR)

ABSTRACT: The authors carried out quantitative measurements of the ad-
             sorption of nitrogen and oxygen on silicagels which were de-
             hydrated in high vacuum. The adsorption was measured by means
             of the volum method. The silicagel test piece was introduced
             into a quartz ampule and annealed after previous draining at
             300°C at an assumed temperature. Then the prepared portion of
             the gas to be investigated was introduced into the ampule and
             the corresponding measurements were carried out at 20° C. Nitro-
             gen is not adsorbed under these conditions within the accuracy
             of measurement. With oxygen, the surface of silicagel de-
             hydrated in vacuum at temperatures of 300 to 900° C adsorbes the
             oxygen to a considerable extent. Hereby the quantity of ab-
             sorbed oxygen grows with an increase of the annealing temper-
             ature. The effect of a short-wave radiation and the thermic de-
             hydration in the final effect apparently lead to the samepro-
             perties of the surface. The authors further investigated the

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             heats of wetting of the silicagels with water in which case
             these silicagels were previously annealed in vacuum at vari-
             ous temperatures up to 800° C. The data obtained during this
             operation are summarized in a table. The two silicagels invest-
             igated here, produce after annealing in vacuum a greater heat
             of wetting than the same test pieces annealed in air. On the
             surface of the silicagel dehydrated in vacuum, centers with
             higher activity of adsorption than with the OH-groups are form-
             ed. The results obtained in this case agree with the measure-
             ments of other authors (reference 11,12).
             There are 2 figures and 12 references, 8 of which are Slavic.

ASSOCIATION: Moscow State University im. M. V. Lomonosov
             (Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova).

PRESENTED: May 4, 1957, by M. M. Dubinin, Academician.

SUBMITTED: May 26, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Yegorov,M.M., Yegorova,T.S.,Kiselev,V.F.,
             and Krasil'nikov,K.G.   SOV/55-58-1-27/33

TITLE: Influence of the Nature of the Silica Gel Surface on the
             Adsorption of the Methyl Alcohol Vapors (Vliyaniye prirody
             nosti silikagelya na adsorbtsivu

PERIODICAL: Vestnik

5(4)

AUTHORS: Il'in,B.V., Kiselev,V.F., and
             Krasil'nikov, K.G.   SOV/55-58-2-31/35

TITLE: Heat of Wetting of the Silica Gels of Different Degrees of
             Hydration (Teploty smachivaniya silikageley razlichnoy
             stepeni gidratatsii)

PERIODICAL: Vestnik Moskovskogo Universiteta,Seriya matematiki, mekhaniki,
             astronomii, fiziki, khimii,V.13, 1958,Nr 2,pp 223-232 (USSR)

ABSTRACT: The paper contains the results of a systematic investigation
             of the heat of wetting of different kinds of silica gels.
             The wetting of the surface was carried out by water, n-propyl-
             alcohols and n-heptane. The structural water content of the
             silica gel was taken into account. Already known properties
             were essentially confirmed. The opinion of A.V. Kiselev and
             his collaborators [Ref 9-16] was not confirmed according to
             which the unit of the surface of the silica gel possesses
             certain "absolute" energetic properties. This is not the
             case : The properties of the surface essentially depend on
             the preceding treatment (annealing etc), i.e. on the bound
             water content of the surface layer.
             There are 6 figures, and 25 references, 15 of which are Soviet,

             Chair of Gen. Physics, Faculty of Chemistry

AUTHORS: Kiselev, V.F., Krasil'nikov, K. G.

TITLE: The Specific Character of the Adsorption of Phenol by Silicagel From Heptane Solutions (Osobennosti adsorbtsii fenola iz rastvorov v geptane silikagelem)

SOV/76-32-6-45/46

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 6, pp 1435-1436 (USSR)

ABSTRACT: In a previous paper it was found that the initial domain of the adsorption isothermal line shows a steplike character; more acurate measurements in this field showed that great changes of the integral heat adsorption according to the concentration take place. In connection with observations made by other authors it turned out to be interesting to carry out parallel experiments of the adsorption of phenol from solutions for purposes of investigating the adsorption isothermal line on the one hand and the heat of wetting of the same solutions on the same silicagel on the other hand. The authors used a coarse-pored silicagel KSK-1, the methods of measurement remaining the same as in the previous paper. The experimental results obtained do not yet permit the interpretation of the observations made, however, the authors put forward some ex-

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The Specific Character of the Adsorption of Phenol by   SOV/76-32-6-45/46
Silicagel From Heptane Solutions

planations from which it may be seen that the phenomena are
due to the complicated process of the filling of the surface
of the adsorbent, which according to its properties is
inhomogeneous, with the molecules of the substance to be ad-
sorbed. It was found that the change of the chemical nature
of the surface of the adsorbent caused by different ways of
treatment (e.g. dehydration) can lead to the occurrence of
steps in the isothermal line or to their removal, respectively.
In order to be able to explain the occurrence of maxima and
minima found on the isothermal line of the heat of wetting, or
to find a possible connection with the step-phenomenon on the
adsorption isothermal line more experiments will have to be
carried out. There are 2 figures and 8 references, 7 of which
are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova
            (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: December 11, 1957

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5(4)

AUTHORS: Yegorov, M. M., Krasil'nikov, K. G.,
             Kiselev, V. F.   SOV/76-32-10-33/39

TITLE: The Influence of the Nature of Silica Gel and Quartz
             Surfaces on Adsorption Properties (Vliyaniye prirody poverkh-
             nosti silikagelya i kvartsa na ikh adsorbtsionnyye svoystva)
             I. Investigations of the Hydration of the Silicon Dioxide
             Surface (I. Issledovaniya gidratatsii poverkhnosti
             kremnezema)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 10,
             pp 2448 - 2454 (USSR)

ABSTRACT: Of late the presence of hydroxyl groups on silicon
             dioxide surfaces was found in investigations (Refs 8-13).
             The present paper deals in detail with investigations of
             the degree of hydration in dependence on the annealing
             in 7 different SiO$_2$ samples. The silica gel KSK was
             carefully purified; silica gel K-2 was obtained by a
             distillation of SiCl$_4$ according to a method mentioned
             (Ref 3), and after storing under water it was termed
             silica gel K-3. "White root" and ground quartz (sample
             BS-1) were used as non-porous samples. The determinations

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The Influence of the Nature of Silica Gel and Quartz   SOV/76-32-10-33/39
Surfaces on Adsorption Properties. I. Investigations of the Hydration
of the Silicon Dioxide Surface

of the specific surfaces of the samples were carried
out according to the BET method by means of nitrogen
vapors. All silica gel samples used belong to the type
of coarsely porous adsorbents (Ref 16). Diagrams of the
function of the water content versus the annealing
temperature of the silica gels KSK-1, KSK-2, K-2 and
K-3 are given using data by Shapiro and Weiss(Veys)
(Ref 14) as well as by Bastick (Bastik)(Refs 4,17).
The standard temperature for treating the samples was
chosen to be 300°. The results show that the content
of the water of constitution as related to the surface
unit is different for various silica gels. In the case
where the samples were treated exactly the same but
a different specific surface was present no surfaces
with the same degree of hydration could be obtained,
which proves the incorrectness of the data mentioned
in reference 21. On storing the samples in water it
was found that the amount of water of constitution on the
surface increased sharply. However, those samples treated

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5(4)

AUTHORS:

Yegorov, M. M., Yegorova, T. S., Krasil'nikov, K. G.,
Kiselev, V. F.   SOV/76-32-11-25/32

TITLE:

The Effect of the Nature of the Silica Gel and Quartz Surface
on Its Adsorption Properties (Vliyaniye prirody poverkhnosti
silikagelya i kvartsa na ikh adsorbtsionnyye svoystva) II.
Adsorption of Steam, Methyl Alcohol and Nitrogen on Silica
Gel of Different Degrees of Hydration (II. Adsorbtsiya parov
vody, metilovogo spirta i azota na silikagelyakh razlichnoy
stepeni gidratatsii)

PERIODICAL:

ABSTRACT:

Silica gel samples and non-porous "white soot" described in
the previous paper were used. The measurements of the adsorp-
tion were carried out according to the gravimetric method. It
was found (Fig 1) that with samples treated at 300°C the ad-
sorption (at constant p/p$_s$) decreases with a decrease of the
degree of hydration of the surface. The different adsorbability
of the investigated silica gels is not due to their structure

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The Effect of the Nature of the Silica Gel and Quartz Surface on Its
Adsorption Properties. II. Adsorption of Steam, Methyl Alcohol and Nitrogen
on Silica Gel of Different Degrees of Hydration

SOV/76-32-11-25/32

but to the chemical nature of the surface (their degree of
hydration). It is assumed that the hydroxyl groups with water
molecules can form hydrogen compounds on the surface (Ref 12),
and thus act as adsorption centers. Contradicting data given
by other authors on the adsorption centers mentioned above
(Refs 15,16) are explained by a different technique of in-
vestigation. As the hydration of the surface of the investi-
gated samples is different the adsorption properties of the
surface with respect to the molecules capable of forming
hydrogen compounds with hydroxyl groups are also different.
Measurements carried out of the surface of hydrated KSK-1
samples occupied by water molecules showed that within the
range of p/p_s from 0.1 to 0.3 the value ω changes from 39 to
22.5 $\AA^2$ and thus is considerably higher than that given in
publications (10.6 and 14.8 $\AA^2$) (Refs 20-22). As the adsorp-
tion properties are functions of several factors (crystal-
lography of the sample, chemical composition etc.) they can-
not be called "absolute" properties ("absolute" isothermal
lines). The authors thank M. M. Dubinin and B. V. Il'in.

Card 2/3

AUTHORS: Yegorov, M. M., Zarif'yants, Yu. A.,
Kiselev, V. F., Krasil'nikov, K. G.

SOV/20-120-2-28/63

TITLE: The Adsorption Properties of Alumo-Silicate Catalysts and Their Dependence Upon Composition (Adsorbtsionnyye svoystva alyumosili- katnykh katalizatorov i ikh zavisimost' ot sostava)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 2, pp. 326 - 329 (USSR)

ABSTRACT: In some previous papers (Refs 1-4) it was shown that the adsorption properties per unit of surface with respect to water and ethyl alcohol molecules are to a considerable extent dependent upon the degree of hydration of the surface. It would be of interest to extend such investigations to a number of alumo-silicates of varying composition. In the first stage of these studies the authors investigated the adsorption of steam and of methyl alcohol vapors and the heat necessary to wet the synthetic alumo-silicate compounds. The catalysts had a content of 15%(Gudri catalyst), of 30% and of 50% of Al_2O_3. The measurements of adsorption were carried out in a calorimeter with constant heat exchange. A diagram gives the

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The Adsorption Properties of Alumo-Silicate
Catalysts and Their Dependence Upon Composition

SOV/20-120-2-28/63

function of the heat required for wetting by water versus the
content of crystal water for all alumo-silicates under investigation.
These curves exhibit maxima which reproduce the thermal pre-
treatment of the samples at 200-300°. The comparatively high
content of crystal water is of interest, in particular in the
samples with a high Al_2O_3 content. The heats of wetting differ by
about the double between silicagel and alumo-silicate with a low
Al_2O_3 content (15%) even with a similar hydration of the surface.
The same samples were also used for the determination of the iso-
thermal lines of the adsorption of steam and of methyl alcohol
vapors. The desorption isothermal lines of all samples are
considerably below the adsorption isothermal lines. Silicagel,
however, did not show such a behaviour. The structure of alumo-
silicates is similar to that of silica, its surface, however, is
more inhomogeneous. Investigation of the adsorption mechanism
cannot be limited to the local adsorbed molecules with active
centers, and their topography and their concentration must be taken
into account. In conclusion the authors express their gratitude

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5(4)

AUTHORS: Yegorova, T. S., Kiselev, V. F.,
           Krasil'nikov, K. G.   SOV/20-123-6-28/50

TITLE: The Differential Heats of the Adsorption of Water Vapors on
           Silica Gels of Different Hydration (Differentsial'nyye teploty
           adsorbtsii parov vody na silikagelyakh razlichnoy gidratatsii)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1060-1063
           (USSR)

ABSTRACT: No reliable data have hitherto been published on the dependence
           of the differential adsorption heats of water vapors on the
           filling up of the surface. In the present paper the silica gels
           K - 2 and KSK - 3 were used. The characteristic data of the
           adsorption on these samples are given in a table. The adsorption
           heats of the vapors were measured in a calorimeter similar to
           that described by reference 7; the wetting heats were measured
           in a calorimeter with constant heat exchange. The water vapors
           were adsorbed at constant vapor pressure. The authors
           investigated the initial domains of isothermal lines and of the
           differential adsorption heats of water vapors in various silica
           gels by means of two methods. A diagram shows the wetting heats

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The Differential Heats of the Adsorption of
Water Vapors on Silica Gels of Different Hydration

SOV/20-123-5-28/50

as functions of the previously adsorbed quantity of water.
In a previous paper (Ref 1) homogeneous large-pore adsorbents
were investigated within the domain of adsorption up to the
beginning of capillary condensation. The results obtained by
calculating the differential adsorption heat as a function of
specific adsorption are shown in form of a diagram. The
adsorption heats for the silica gel K - 2 - 300°, which were
determined by means of direct calorimetrical measurements,
agree well with the theoretically calculated curves. The initial
values of water adsorption on silica gel KSK are within the
interval of 15 - 20 kcal/mol. At low degrees of filling the
adsorbed molecules form 3 or even 4 hydrogen bonds with the
hydroxyls of the surface. Part of the molecules is probably
adsorbed within this domain on centers of higher energy. In the
case of one and the same degree of filling the differential
heats decrease with a decreasing degree of hydration of the
surface. Also the differential entropy of water vapor adsorption

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KISELEV, V.F.

Interaction of the surface of a solid body with water
("Interaction of the mineral part of soils with water" by
I.A.Tiutiunov. Reviewed by V.F.Kiselev). Pochvovedenie   no.12:
105-107 D '59.   (MIRA 13:4)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo
universiteta.
        (Minerals in soils) (Soil moisture)

5(3), 5(4)

AUTHORS: Zarif'yants, Yu. A., Kapitonova, N. V., Kiselev, V. F.,
Krasil'nikov, K. G.

TITLE: The Adsorption of Benzene Vapors on Aluminosilicates of
Various Composition (Adsorbtsiya parov benzola na alyumo-
silikatakh razlichnogo sostava)

ABSTRACT: The insertion of AlO_4 tetrahedrons in the structure of
silica leads to a variation of the hydrated as well as
unhydrated sectors of the surface. Thus also the ad-
sorption properties vary during the transition from pure
silica to aluminosilicates of various composition. Alumino-
silicates with a content of 15 and 30% Al_2O_3 as well as

the aluminogel AT and silica gel K-2 were investigated.
The isothermal lines of adsorption are given in diagrams.
The initial sections (in enlarged reproduction) lie

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The Adsorption of Benzene Vapors on Aluminosilicates   SOV/156-59-1-12/54
of Various Composition

on a curve, and the adsorption rises with increasing Al_2O_3
content. This cannot be explained by an increase of the
adsorption potential in the pores. The adsorption of alumino-
gel is higher than that of equally porous aluminosilicate
with 15% Al_2O_3 and of more fine-porous silica gel. The varia-
tion of the adsorptive capacity seems to depend on changes
of the surface structure. This will be investigated with
nonporous adsorbents in a future work. V. T. Bykov (Ref 8)
assumed that the so-called "absolute" adsorption properties
of the surface of silica and aluminosilicates are equal and
extended this statement to various kinds of adsorbents. This
is a false presumption, based on unfounded presuppositions.
Actually, a function must be effective here which depends
just on the specific properties of the surface of the indi-
vidual adsorbents. The range, for instance, which is occupied
by a benzene molecule on silica gel is larger than that on
the aluminogel. Gratitude is expressed to B. V. Il'in for
his assistance in this work. There are 2 figures and 16 refer-

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The Adsorption of Benzene Vapors on Aluminosilicates   SOV/156-59-1-12/54
of Various Composition

          ences, 14 of which are Soviet.

ASSOCIATION: Kafedra obshchey fiziki Moskovskogo gosudarstvennogo univer-
                siteta im. M. V. Lomonosova (Chair of General Physics of
                Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 10, 1958

Card 3/3

5(4)

AUTHORS:

Yegorov, M. M., Kiselev, V. F., Krasil'nikov, K. G.,
Simanov, Yu. P.

TITLE: The Influence of the Phase Composition of the Adsorbents
in the System $Al_2O_3 - H_2O$ on Their Surface Properties

ABSTRACT: Cherenkov aluminum oxide from the laboratory of K. V. Topchiyeva
khimicheskiy fakul'tet MGU (Chemical Department of Moscow State
University) was used for the investigation. The dehydration at
different temperatures was investigated (Fig 1). Phase investi-
gations were carried out by X-ray methods with cameras of the
type RDK-57 and with X-ray tubes of the type BSV. The samples
were tempered at different temperatures and the wetting heat
was determined (Table). The results are - referred to 1 g
oxide - represented in diagrams (Fig 2). A second representation
is given with respect to the surface unit (Fig 3). A dependence
between the structural water and the wetting heat per surface
unit was found (Fig 4). The phase change and the change of the
degree of wetting of the surface causes a sharp change of the

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The Influence of the Phase Composition of the   SOV/153-2-3-9/29
Adsorbents in the System Al_2O_3 - H_2O on Their Surface Properties

surface properties. The authors thank K. V. Topchiyeva and
B. V. Il'in for their assistance in the investigations.
There are 4 figures, 1 table, and 10 references, 7 of which
are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova -
Kafedra fiziki (Moscow State University imeni M. V. Lomonosov -
Chair of Physics)

SUBMITTED: April 24, 1958

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5(4)   SOV/76-33-1-11/45
AUTHORS: Yegorov, M. M., Kiselev, V. F., Krasil'nikov, K. G.,Murina, V. V.

TITLE: The Effect of the Surface Nature of Silica Gel and Quartz on
               Their Adsorption Properties (Vliyaniye prirody poverkhnosti
               silikagelya i kvartsa na ikh adsorbtsionnyye svoystva) III.
               Heats of Wetting of Silicon Dioxide With Various Liquids
               (III. Teploty smachivaniya kremnezema razlichnymi zhidkost-
               yami)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 1, pp 65-73 (USSR)

ABSTRACT: In connection with previous papers the effect of the hydration
               of the surface of silicon dioxide on the adsorption energy of
               water and methanol in the form of heat of wetting (HW) is in-
               vestigated. HW was determined in several SiO_2 samples with
               water, methanol, n-propanol, and n-heptane in dependence on the
               hydration degree of the surface. Data on the HW of the silica
               gels KSK with water were taken from M. M. Yegorov's thesis
               (Ref 18). The HW was measured by means of a calorimeter with a
               temperature sensitivity of $5.10^{-5}\,^\circ$C. A table of the investigated
               silica gels with the HW obtained for water is given. An in-
Card 1/3   vestigation of the effect of the glowing temperature on the HW

The Effect of the Surface Nature of Silica Gel and Quartz on Their Adsorption Properties. III. Heats of Wetting of Silicon Dioxide With Various Liquids

SOV/76-33-1-11/45

(Fig 1) showed that a glowing temperature of 200-300°C the function curves pass through a maximum. An increase in the glowing temperature up to 1000°C resulted in a surface decrease, e. g. in silica gel K-2, of several m^2/g. A treatment at 300°C is considered the standard. Here, the dependence of the HW on the hydration of the surface is expressed by a straight line. A wetting of thermally dehydrated samples with water results in the formation of hydration heat. A hydrated quartz surface differs qualitatively from a corresponding silica gel surface which can be explained by the closer packing of the hydroxyl groups (in quartz); however, investigations have still to be carried out in this respect (e. g. according to the method of the core-paramagnetic resonance). The HW of methanol does not depend on the porosity of the silica gels, which is the case with n-propanol and n-heptane. In the case of partly dehydrated surfaces a greater HW is obtained by the use of methanol than by that of water which can be explained by the effect of the methyl group in the adsorption. The results of the investigations show that the HW

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The Effect of the Surface Nature of Silica Gel and Quartz on Their Ad-   SOV/76-33-1-11/45
sorption Properties. III. Heats of Wetting of Silicon Dioxide With Various
Liquids

of the silica gel with water and methanol depends essentially
on the hydration degree of the surface which is not the case
with n-heptane. The authors thank B. V. Il'in and G. I.
Aleksandrova. There are 3 figures, 1 table, and 22 references,
14 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

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5(4)

05806

AUTHORS: Yegorov, M. M., Kiselev, V. F., Krasil'nikov, K. G.

SOV/76-33-10-4/45

TITLE: On the Problem of the Adsorptive Power of a Unit of the Quartz Surface

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 10, pp 2141-2144 (USSR)

ABSTRACT: Since the quantity of adsorbed OH groups depends on the number of free corners of the SiO_4 tetrahedron which project into the surface of the silica-gel skeleton, it was assumed (Refs 2-4) that differences in the degree of hydration of silica gels (Refs 1-4) is connected with the manner in which the tetrahedron is packed (in dependence on the conditions of silica-gel preparation). The adsorptive properties of samples of amorphous silicon dioxide of various origin (silica gels and quartz glass) were therefore compared with those of quartz samples since the latter has the densest packing of SiO_4 tetrahedrons. The authors investigated powder samples obtained by grinding (carried out by L. A. Feygin), crystalline quartz and transparent quartz glass. The samples were ground in dry state as well as under the addition of water. The adsorptive properties of the samples are listed (Table: quartz, Kv-1, -2, -3 samples, quartz glass, sample KS-1 and the silica gels KSK-1

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SUBMITTED: February 20, 1958

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5(4)

AUTHORS: Bakayev, V. A., Kiselev, V. F.,
Krasil'nikov, K. G.   SOV/20-125-4-40/74

TITLE: The Reduction of the Melting Temperature of Water in the
Capillaries of a Porous Body (Ponizheniye temperatury plavleniya
vody v kapillyarakh poristogo tela)

ABSTRACT: From the data concerning the phase composition of an adsorbed
substance as a function of temperature it is possible to
determine the quantitative characteristic of the structure of
a porous body by determining not only the radius but also
the volume of the capillaries in which the phase transformations
take place. The quantity of adsorbed substance in 1 g of the
adsorbent melting at the temperature T can be determined from
the specific heat of the system adsorbent-adsorbed substance.
A more simple, but sensitive method is that of indirect deter-
mination of heat capacity by measuring the temperature conduc-
tivity λ of the system. The authors carried out these measure-
ments by employing the modified method of "linear temperature
increase". The adsorbents used were the silica gels KSK-2,

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The Reduction of the Melting Temperature of Water in the   SOV/20-125-4-40/74
Capillaries of a Porous Body

KSM-1 and a specimen of a non-porous alumina BS-1. In these
samples the isothermal lines of the adsorption of water vapors
were measured. Measurements of temperature conductivity were
carried out ranging from the temperature of liquid nitrogen
to the temperature of 275° K. The dependences of the quantity
const/λ on temperature thus determined are shown by a diagram.
The theory of capillary condensation shows a connection
between the reduction of temperature of the phase transforma-
tion and the radius of the capillaries containing the adsorbent
substance. A connection between the freezing temperature of
water and the radius of the pores can be derived. The points
in the diagram $\Delta T = f(10^3/r)$, which were determined for
various samples and by various methods, are well suited for
a straight line. The method of determining const/λ suggested
by the authors makes it possible quickly to determine the
substance adsorbed in the porous body. Herefrom it is then
possible to determine the curve for the distribution of the
volume of the pores over their effective radii. The authors
thank L. V. Radushkevich for his interest in this investigation.

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The Reduction of the Melting Temperature of Water in   SOV/20-125-4-40/74
the Capillaries of a Porous Body

There are 3 figures and 8 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov). Institut
fizicheskoy khimii Akademii nauk SSSR (Institute of Physical
Chemistry of the Academy of Sciences, USSR)

PRESENTED: December 24, 1958, by M. M. Dubinin, Academician

SUBMITTED: December 17, 1958

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5 (4), 15 (2)

AUTHORS: Ganichenko, L. G., Kiselev, V. F.,   SOV/20-125-6-29/61
              Krasil'nikov, K. G.

TITLE: The Influence of the Hydration of the Surface of Silica on the
              Adsorption of Aliphatic Alcohols From Solutions (Vliyaniye
              gidratatsii poverkhnosti kremnezema na adsorbtsiyu
              alifaticheskikh spirtov iz rastvorov)

ABSTRACT: The influence exercised by the hydration of the surface of
              silica is investigated for the adsorption of stream (Ref 1)
              and saturated hydrocarbons (Ref 2). In the former case this
              influence is considerable, in the latter it is insignificant.
              It was therefore of interest to investigate this influence in
              the adsorption of alcohols which have both hydroxyl groups
              and carbon chains. Measurements were carried out of the
              adsorption of methanol-, n-propanol-, n-hexanol, and n-octanol
              from carbon tetrachloride solutions. Two samples of non-
              porous silica - "white carbon black" - BS-1 and BS-2 were used.
              The samples were annealed before the experiments at 300°, one

Card 1/3   of the BS-2 samples also at 700°. The results obtained are

The Influence of the Hydration of the Surface of   SOV/20-125-6-29/61
Silica on the Adsorption of Aliphatic Alcohols From Solutions

shown by table 1. Figure 1 shows the isothermal lines of
adsorption, figure 2 shows the dependence a) of the adsorption
maximum, b) of the surface occupied by the adsorbed molecules,
c) of the thickness of the adsorption layer, d) of the ratio
between the adsorbed molecules and the number of hydroxyl
groups on the degree of surface hydration. Whereas methanol is
still considerably influenced by the degree of hydration, this
influence decreases with an increase of the carbon chain. The
adsorption of octanol is not influenced at all. With an
increasing length of the carbon chain the behavior of the
alcohols thus approaches that of the hydrocarbons. Further,
the marked increase in thickness of the adsorption layer of
methanol is discussed. It is explained by variation of
molecule orientation, which may be caused by a polymorphic
transformation due to the thermal treatment of the silica, and
leads to steps or discontinuities in the adsorption
isothermal line. There are 3 figures, 1 table, and 15
references, 13 of which are Soviet.

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The Influence of the Hydration of the Surface of   SOV/20-125-6-29/61
Silica on the Adsorption of Aliphatic Alcohols From Solutions

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
                (Moscow State University imeni M. V. Lomonosov)

PRESENTED: December 30, 1958, by M. M. Dubinin,   Academician

SUBMITTED: December 24, 1958

Card 3/3

Kiselev, Y.I.

S/062/60/000/009/002/021
B023/B064

AUTHORS: Ganichenko, L. G., Dubinin, M. M., Zaverina, Ye. D.,
               Kiselev, V. F., and Krasil'nikov, K. G.

TITLE: Study of the Vapor Adsorption on Adsorbents With
               Heterogeneous Surface. Communication 2. Experiments With
               Organically Substituted Silica Gel

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
               nauk, 1960, No. 9, pp. 1535-1543

TEXT: The adsorption of various vapors on methylated course-porous silica
gel and a demethylated sample obtained therefrom is discussed here. The
conditions of investigation were chosen in such a way that an essential
change of the specific surface seemed to be unlikely. Coarse-porous com-
mercial silica gel KCK(KSK) was taken as initial sample and carefully
purified from iron and other impurities. To methylate the surface, silica
gel was repeatedly treated with dichloro dimethyl silane vapors at 200°C.
Then, the vapors were sucked off in vacuum at 100°C, and silica gel washed
with water until the reaction for the chlorine ion was negative. The

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